

REMARKS

Responsive to the Official Action mailed March 12, 2003, applicants have revised the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, independent claims 1 and 11 have been amended. Reconsideration is respectfully requested.

In response to the Examiner's Requirement for Restriction, applicants hereby affirm their provisional election, made with traverse, to prosecute the claims of Group I, namely claims 1-7 and 11. In the event that the Examiner maintains her Requirement, applicants respectfully reserve the right to file a divisional application to the non-elected claims.

In rejecting the pending claims under 35 U.S.C. §102/§103, the Examiner has relied upon U.S. Patent No. 5,801,107, to Everhart et al. However, it is respectfully submitted that this reference neither teaches nor suggests the present differentially entangled fabric as claimed, and accordingly, the Examiner's rejections are respectfully traversed.

As discussed in applicants' specification, the present invention is directed to a unique nonwoven fabric structure which is formed so that opposite outer surfaces of the fabric are relatively hydroentangled for fabric strength and abrasion-resistance, while a central region of the fabric between the outer surfaces is relatively lightly entangled to maintain the fabric's loft and absorbency. As a consequence, the present nonwoven fabric has proven particularly suitable for those applications where this combination of physical characteristics is desirable, including use as an undercast pad in medical applications, as well as use as a non-abrasive absorbent wipe, wherein the highly entangled outer surfaces of the present fabric desirably resist linting of the fibers from which it is formed. Variation in the level of entanglement of the outer surfaces permits varying degrees of loft and linting performance to be achieved.

It is respectfully submitted that the cited Everhart et al. patent clearly does not teach or suggest the present invention as claimed. This patent is directed to a liquid transport material, such as employed in absorbent articles such as disposable diapers. For such applications, *wicking performance* is an important aspect of such a material, and indeed, the teachings of the patent are substantially limited to achieving such performance. There is no teaching or suggestion of effecting *differential* entanglement between outer surfaces of a fabric and a region therebetween, and no teaching or suggestion of use of such a fabric such as for undercast padding, or for use as a wipe, where low linting performance is important.

As stated at column 10, lines 15 *et seq.*:

"It is believed that opening-up or loosening of the fiber network to provide a relatively uniform series of capillaries, passages, or pores along the plane of the nonwoven material enhances the material's ability to pick-up, transport and release liquid as measured by a Distribution/Retention Fluid Test."

The patent goes on to specify use of a foraminous surface such as in the form of a mesh fabric, wherein "the forming fabric must be fine enough to avoid fiber wash-out yet allow adequate drainage". Use of various types of mesh fabrics is discussed.

Notably, the apparatus disclosed in Figure 1 of this reference for manufacture of the liquid transport material is specifically configured to direct fluid streams against *but a single surface* of the material. Specifically, a suspension of fibers is deposited on foraminous surface 24, and water removed to form a web of fibers 28. The patent states:

"The nonwoven web 28 passes under one or more hydraulic needling manifolds 30 and is treated with jets of fluid to open up or loosen and rearrange the tight network of fibers".
(Column 8, lines 25 *et seq.*)

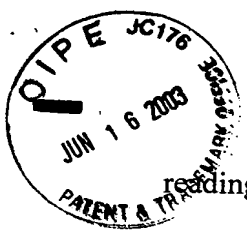
The web of fibers is then advanced for drying.

As is evident from this reference, it is contemplated that hydroentanglement treats the fibers of the nonwoven web 28 so as to form a material which promotes liquid transport. There are *no teachings* of highly entangling opposite outer surfaces of a fibrous web, while effecting relatively light entanglement of a region therebetween.

In the Action, the Examiner has noted the contemplated energy input levels specified in the Everhart et al. reference. However, because this reference is limited in its teachings to application of such fluid energy *from a single side of the fibrous web*, this reference cannot teach or suggest *collectively applying* this level of fluid energy to *opposite surfaces* of a fibrous web. There is simply no teaching or suggestion of formation of such a fabric structure.

Attention is respectfully directed to the cross-sectional photomicrographs of applicant's novel fabric. The highly entangled, opposite outer surfaces of the fabric can be readily discerned, in contrast to the relatively lofty, lightly entangled central fabric region.

In the Action, the Examiner states "Everhart et al. do not explicitly teach the claimed highly entangled outer surface region and lightly entangled inner core region", and goes on to state "the presently claimed property of a highly entangled outer surface region and lightly entangled inner core region would obvious [sic] have been present once the Everhart et al. product is provided". In light of the Examiner's acknowledgment of the deficiencies in the Everhart et al. teachings, applicants must respectfully disagree that a fabric configured in accordance with the present claims would be obvious. Everhart et al. is specifically limited in its teachings of the formation of a fabric having contemplated liquid transport properties. The physical characteristics obtained by the present fabric, such as strength, abrasion resistance, low linting, and loftiness are simply not contemplated by Everhart et al. It is believed to be

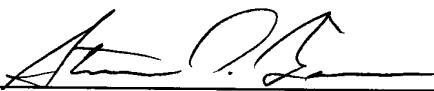


reading beyond the limited teachings of this reference to suggest that applicants' claimed fabric would be obvious from the limited teachings of Everhart et al. It is again respectfully noted that Everhart et al. is expressly limited to application of fluid streams to a *single surface* of the fibrous web, without regard to achieving the fabric properties provided by the present invention.

In view of the foregoing, formal allowance of claim 1-7 and 11 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fee which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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I hereby certify that this Amendment is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **June 11, 2003**.



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